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10/763,391	01/26/2004	Muneharu Nakabayashi	62758-068	4589

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EXAMINER
ALI, MOHAMED HATEM

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3692	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/763,391	NAKABAYASHI ET AL.	
	Examiner	Art Unit	
	MD HATEM H. ALI	3692	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 January 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. The following Action is in response to a communication received on **01/31/2008**

Acknowledgement

2. In the remarks received on **01/31/08**, **no claims** have been amended. As such **claims 1-20** are pending.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. **Claims 1-15** are rejected under 35 U.S.C. 103(a) as being unpatentable over ***Kawakami*** (4,769,532) in view of ***Zoladz*** (5,855,268).

As per claim 1, ***Kawakami*** discloses a sheet handling apparatus comprising:

a detection part (see **Figs.2 & 3** and **col.4,** lines 22-30; via a **CPU** [central processing unit] for controlling a bill [sheet] discrimination device and the like to which **# 1- 5** including light emission controlling circuit) that detects a characteristic of a sheet transported by a transport module;

an amplifier that amplifies a signal obtained from the detection part (**col.4**, line 53, and **Fig.2 # 10**)

an A/D converter that converts an analog signal amplified in the amplifier to a digital signal (**col.4**, line 52; via an A/D converter **11** with amplifier **10 and** also in **Fig.2**);

determining means (**CPU**) that determine the truth of the sheet (**true** or **false** [**unidentified/undefined**]) by use of a signal having been produced as a result of A/D conversion by the A/D converter (**col.4**, lines 22-30 and **Figs 2** and **3 # 1**; via a **CPU #1** for controlling a bill discrimination device); and

a control part (see **Fig.2**; via **CPU** inherently programmed) that changes signal read accuracy of the detection part,

wherein, if the sheet is determined as unidentified as a result of determining the truth of the sheet in the determining means, the control part changes a setting of conditions so that a capability to determine the sheet is higher than when the sheet was determined as unidentified, and transports the sheet determined as unidentified to the detection part so that the truth determination is performed again in the determining means (**CPU**-as per program and inherently does all operations to determine true or false [**unidentified/undefined**]).

However, ***Kawakami*** fails to teach details about the sheet (bill) transported by a transport module.

Zoladz in the same field of invention discloses the concept of bill (sheet) transported past a plurality of photosensors and phototransistors (**col.1** & **3**, lines 15-20, 10-50, & **Fig.1**; via transport unit **1** connected to a bill stacker **2** and cashbox **5**).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention was made to modify the transport module to include a currency validator and transport **unit 1** in order to facilitate the complete process of movement, validation and denomination of paper currency or bill (sheet).

As per claims 2 and 3, ***Kawakami*** discloses the control part changes an amplification factor of the amplifier corresponding to denominations (**col.6,** lines 24-65, and **Figs.5** & **6**; via **CPU**, amplifier **10** and amplification **factor**).

As per claims 4 and **5**, ***Kawakami*** discloses that the control part changes and sets conditions to narrow a range between an input upper limit value and an input lower limit value of the A/D converter (**col.6**, lines 50-58; via function of A/D converter **11**. and **CPU** with control part).

As per claim 6, *Kawakami* discloses that the sheets determined as unidentified by the determining means include sheets in which characteristics indispensable to true bills were detected but which exceed a permissible error (**col.6**, line 23; via **CPU 1**[Central Processing Unit**]** for controlling a bill discrimination device and the like)

As per claim 7, *Kawakami* discloses a method of determining bills in a bill handling apparatus (see **Abstract**; via an automatic cash receiving and dispensing machine), comprising the steps of:

sending a bill to a determining part to perform determination (**col.6,** line 25 and **CPU** controlling apparatus);

detecting characteristics of the bill by a detection part (**Fig.2 # 5**);

processing a signal from the detection part (**Fig.5**; via **5, 6, 10, 11, 12 to CPU 1)** and determining a denomination and truth of the bill (**col.4**, line 23, **Fig.2**, CPU controlling bill discrimination device);

as a result of the truth determination, classifying the bill into one of at least four types of bills to process the bill, the four types of bills being true bills determined as true, false bills lacking characteristics indispensable to true bills, unidentified bills having characteristics indispensable to true bills but exceeding a permissible error thereof, and undefined bills the denominations of which cannot be determined (**Figs 5-10**; col.4, lines 23-65 and **CPU**, inherently capable of changing first mode and second mode per intended programs for truth determination);

if the bill is determined as an unidentified bill, changing an amplification factor or resolution of the detection part so as to increase accuracy to determine the bill; and after the change, sending the unidentified bill to the determining part again to detect the characteristics of the bill in the detection part (**Figs 5-10** & **col.4**, lines 23-65 and **CPU**, inherently capable as programmed).

Kawakami fails explicitly to disclose that the false bills lacking characteristics indispensable to true bills, unidentified bills having characteristics indispensable to true bills but exceeding a permissible error thereof, and undefined bills the denominations of which cannot be determined.

However, ***Zoladz*** being in the same field of invention discloses that the false bills lacking characteristics indispensable to true bills, unidentified bills having characteristics indispensable to true bills but exceeding a permissible error thereof, and undefined bills

the denominations of which cannot be determined (**col.4**, line 39; via the microcontroller **# 32** performs all processing of signals to validate and denominate an inserted banknote)

Therefore, it would be obvious to an ordinary skill in the art at the time of invention was made to modify the disclosure of ***Kawakami*** and include the features mentioned and taught by ***Zoladz*** to facilitate in order to use banknote (bill) for validation including denomination with vending or slot machines.

As per claim 8, ***Kawakami*** discloses that the changing step changes an input range of the A/D converter (**col. 6** lines 50-60).

As per claim 9, ***Kawakami*** discloses that, as a result of the truth determination, an undefined bill is returned to a user, a bill determined as an unidentified bill and a bill determined as a false bill in another determination are stored in the machine, and a bill determined as an undefined bill in yet another determination is returned to the user (**CPU** inherently capable as programmed and determines the bill, true or false [unidentified / undefined] and transport accordingly).

As per claim 10, ***Kawakami***, discloses that. a sheet handling apparatus, comprising:

a determining part (**col.4**, lines 22-30; via controlling circuit **5**) that determines the truth of sheets transported by a transport module;

a control part (**Fig.2**. with control circuit # **5**) that changes accuracy to determine the sheets in the determining part.

However, ***Kawakami*** fails to teach about a stocking part (**storage**) that temporary holds sheets determined as unidentified in the determining part, wherein, if the sheets are determined as unidentified in the determining part, the control part changes a determination condition so as to increase the determination accuracy of the determining part, and transports the sheets determined as unidentified to the determining part again to determine the truth of the sheets.

Zoladz in the same field of invention discloses the concept of after validation **storage** of bill in **a currency cashbox 4** (**col.3**, lines 10-55).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention was made to modify the concept of storing bills after validation in the currency cashbox in order to facilitate to handle paper (sheet) currency as quickly as possible.

As per claim 11, *Kawakami* discloses the determining part comprises:

a detector that detects a characteristic of a sheet, an amplifier that amplifies a signal obtained from the detector, an A/D converter that converts an analog signal amplified in the amplifier to a digital signal; and determining means that determine the truth of the sheets by use of a signal produced as a result of A/D conversion by the A/D converter (see **Fig. 2**; via # **5, 6, 9, 10** and **11**),

wherein, if the sheet is determined as unidentified in the determining part, the control part changes signal read accuracy of the detector so as to increase a capability to determine the sheet, and transports the sheet determined as unidentified to the

detector to again determine the truth of the sheet in the determining means (see **Fig.2** and CPU # **1**).

Claims 12 and **13** are rejected as per reasons set forth in claim **10.**

Claim 14 is rejected as per the reasons set forth in claim **2.**

Claim 15 is rejected as per the reasons set forth in claim **4**

5. **Claims 16-20** are rejected under 35 U.S.C. 103(a) as being unpatentable over ***Kawakami*** (4,769,532) in view of ***Zoladz*** (5,855,268) and ***Power*** (6,438,527).

As per claim 16, ***Kawakami*** discloses a method of determining bills in a bill handling apparatus, comprising:

a first determination mode in which denominations and truth of the bills are determined with first determination accuracy in the determining part (see **Figs.5, 6** and **7; via** determination steps);

setting second determination accuracy as higher bill determination accuracy if a bill is determined as an unidentified bill as a result of determination in the first determination mode (see **Figs.6;** via **S11** adjusting mode to **S21** for completion of mode "Normal" or "Repeat of Process" as second mode or more form reference level; see **col.7 & 8**);

a second determination mode in which a bill determined as unidentified as a result of the first determination in the determining part set at the second determination accuracy is determined again (see **Figs.5-10**; via CPU inherently doing steps as programmed); and

processing bills determined as unidentified or false bills as a result of determination in the second determination mode separately from other bills (see **Figs.5-10**; via CPU inherently doing as programmed).

However, ***Kawakami*** fails to disclose about transporting bills to a determining part to perform determination and a second determination mode in which a bill determined as unidentified as a result of the first determination in the determining part set at the second determination accuracy is determined again.

Power in the same field of invention discloses that a second determination mode in which a bill determined as unidentified as a result of the first determination in the determining part set at the second determination accuracy is determined again (**col.6,** line 9 ; via the bill is rescanned [**S5**] and then rechecked [**S3**]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention was made to modify the disclosure of ad features taught by **Kawakami** to include the disclosure of ***Power*** to facilitate the rechecking [rescanning sheet] of bills [second mode] for error correction [or unidentified checking second time])

Zoladz in the same field of invention discloses the transporting bills to a determining part to perform determination (**Fig. 2A** and **col.3,** lines 20-50; via transport system **1** to currency validator for detection and determination).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention was made to modify the disclosure and features as taught by **Kawakami** and ***power*** to include the disclosure of ***Zoladz*** to facilitate the transport system **1** of banknote for proper validation.

As per claim 17, *Kawakami* discloses that the first determination mode includes the steps of:

detecting the characteristics of the bills by a detector; and processing a signal from the detector to determine the truth of the bills (**Figs.5, 6** and **7;** via determination steps);

As per claim 18, *Kawakami* discloses the setting accuracy so as to increase the amplification factor or resolution of the detector for detecting the characteristics of the bills in the second determination mode (**Figs.5-10**; via **S11** adjusting mode to **S21** for completion of mode "Normal" or "Repeat of Process" as second mode or more form reference level; Also see **col.7 & 8**).

As per claim 19, *Kawakami* discloses the step of storing information about sheets determined as false bills or unidentified bills in the second determination mode in a storing part in association with information capable of identifying users of the bills (see **Figs.5-10**; via CPU inherently doing steps as programmed).

As per claim 20, *Kawakami* discloses further the step of having users confirm an inputted amount if a bill is determined as an unidentified bill as a result of determining the bill in the first determination mode (**Figs.5-10**; via CPU inherently doing as programmed).

. *Response to Arguments*

6. Applicant's arguments with respect to **claims 1, 7, 10 and 16** have been considered but are moot in view of the new ground(s) of rejection.

Applicant argued that, "Kawakami does not disclose the following three points that are recited by the present independent claims:

i) an unidentified sheet is handled in the determining means;

ii) the control part changes a setting condition so that a capability to determine the sheet is higher than before;

iii) transporting the sheet determined as unidentified again into the determining means of which capability has been higher."

The Examiner respectfully disagrees because of point i)"an unidentified sheet is **handled** in the determining means" is not claimed, the point ii) is referred to ***Kawakami's*** *disclosure* **(col.6-7;** via **CPU-1** and amplification factor, reference value and output level for detection [lines 55-63] and point iii) is referred to ***Power's*** disclosure of rescanning or rechecking as second mode of determination (**col.6**, line 7).

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Fujita (5,836,435) discloses Bill Handling Apparatus for validating Bills and Banknotes.

Hutchinson (6,070,710) discloses Method and Apparatus for Banknote Validation

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mohamed H. Ali whose telephone number is 571-270-3021. The examiner can normally be reached on 8.00 to 5.30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Kramer can be reached on 571-272-6783. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free)? If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MA

Mohamed H Ali
Examiner
Art Unit 3693

/Harish T Dass/
Primary Examiner, Art Unit 3692